WRITING INSTRUMENT WITH GRIPPING DEVICE

[0001] This application is a divisional application of Design Application No. 10/391,179, filed March 14, 2003, which is a continuation-in-part application of Design Application Nos. 29/168,675, now Design Patent No. D478,933, and 29/168,681, now Design Patent No. D480,107, both filed October 8, 2002; which are divisional applications of Design Application No. 29/153,606, filed January 14, 2002, now Design Patent No. D468,354; which is a continuation-in-part application of Design Application No. 29/145,136, filed July 17, 2001, now Design Patent No. D456,041.

FIELD OF THE INVENTION

[0002] The present invention relates generally to writing instruments having a gripping element. More specifically, the present invention relates to a marker or other type of writing instrument used with wand-like movements, having a gripping element thereon.

BACKGROUND OF THE INVENTION

[0003] Most writing instruments include an elongated tubular body (*i.e.*, the writing instrument body) containing a writing medium, such as ink or pencil lead, or a highlighting medium, such as yellow, green, and pink highlighter ink or the like, and have a writing end at which the writing medium is exposed for contact with the writing surface, such as paper. Because users often grasp at least fine writing instruments tightly, gripping devices have been provided to assist a user in manually gripping a writing instrument, such as to impart comfort and increased control and thus improved legibility in writing. Moreover, such gripping devices are typically positioned to be held close to the writing end of a writing instrument to allow relatively fine control for writing, for example, words or symbols. The writing instruments are generally characterized by a smooth exterior surface typically formed of plastic or other hard material. The exterior surface may be attractive and pleasant to the touch; however, it can be become slippery or dirty during use, resulting in writer discomfort and impaired use and reduced legibility.

[0004] Writing instruments for fine writing, such as pencils, ball point pens, roller ball pens, and porous point type pens, are typically grasped and held by the user in close proximity to the writing end for fine control. In contrast, markers, which typically comprise a felt or felt-like nib at the writing end (in contrast to the writing point of fine-writing instruments) typically are grasped centrally and moved with wand-like movements. Such

movements may be associated with the nature of the writing instrument itself. For instance, when writing in such a quick or non-precise manner, a marker is typically held in a central region (*i.e.*, approximately equidistant from each end of the marker) and used in the above-described wand-like fashion. The felt or felt-like nib increases the flow of writing medium to allow quick or non-precise writing. The nib further allows a writing medium to flow to the nib when writing on vertical or non-horizontal surfaces. Thus, markers may conveniently be held in a horizontal or inverse vertical (*i.e.*, upside down) plane, as is typically the case, for example, when used by plumbers, movers, teachers, lecturers, etc. Once again, grasping the marker in a central region is more convenient than closer to the writing end in such orientation.

[0005] Markers generally are not provided with gripping devices to enhance gripping of the marker. Moreover, gripping devices that have been provided on markers have only been positioned close to the writing end of the marker, like gripping devices of fine-writing instruments, to allow relatively fine control for writing, for example, words or symbols or other indicia.

[0006] Accordingly, there is a need for a gripping device configured for use on a marker to impart and to enhance comfort during all typical uses of the marker. In addition, there is a need for a gripping device for a marker formed from a material that is comfortable and easy to grip, yet also particularly well suited for the environment in which the marker is used.

SUMMARY OF THE INVENTION

[0007] The present invention relates generally to a grip element that is adapted to be used with an article, such as a writing instrument (particularly a marker), to enhance use of the article such as by promoting increased comfort, grip, and cleanliness of the grip member.

[0008] The present invention encompasses a gripping element formed and/or fabricated to fit over an article, and, particularly, over a gripping section of the article, if present. The outer surface may be comprised of a tough (*e.g.*, a non-wear), dirt-repellant material (*e.g.*, an elastomer). Alternatively or additionally, a plurality of elevated sections may be provided on the outer surface of the gripping element. The plurality of elevated sections are preferably positioned on the outer surface in a pattern enhancing various characteristics (*e.g.*, comfort during writing, or maintaining a rounded article in a rest position when laid on a surface during non-use). The elevated sections may be non-

contiguous, intercalated but spaced apart shapes, such as intercalated crosses and hexagons or sliced hexagons. The surface of the gripping section between the raised shapes may have a rough, non-smooth, unsmooth, or textured surface to inhibit build-up of dirt or grime in the sunken gaps between the raised shapes.

[0009] The present invention also encompasses a writing instrument having a gripping element comprising an elongated writing instrument body having a first end (*e.g.*, a distal end), a second end (*e.g.*, a proximal end), and a central region between the first end and the second end. A gripping section is arranged along a midpoint of the writing instrument (substantially equidistant from the first end and the second end) for gripping the writing instrument in a wand-like fashion for use in quick or non-precise writing or for writing on vertical or inverse-horizontal surfaces. A gripping element is positioned over the gripping section and extends at least over the midpoint of the writing instrument and between the midpoint and the second end of the writing instrument and is spaced apart from the first end and the second end.

[0010] The invention further encompasses a method of using a writing instrument with a gripping element over a central region or gripping section between the first and second ends of the writing instrument. In particular, the gripping member may be located along a midpoint equidistant from the first end and the second end of the writing instrument but spaced apart from the first end and the second end (and thus clearly is not to be confused with a grip cover such as an elastomeric coating covering the entire barrel of the writing instrument). The method includes gripping the writing instrument over the grip member and writing in a wand-like manner on a vertical, substantially vertical, or inverse-horizontal plane. The grip is formed from a material different from the material of the writing instrument body and may be separately formed from or co-molded with the writing instrument body. The material of the gripping element may be softer and/or more resilient than the material of the writing instrument body to enhance gripping.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] **Fig. 1** is an elevational view of a gripping element that may be used in accordance with the principles of the present invention, and showing a first shape of an exemplary elevated pattern on the gripping element;

[0012] **Fig. 2** is an elevational view of a gripping element as in Fig. 1, that may be used in accordance with the principles of the present invention, and showing a second shape of an exemplary elevated pattern on the gripping element;

[0013] **Fig. 3** is a front elevational view of a writing instrument with an exemplary gripping element as in Fig. 1 positioned substantially at the midpoint of the writing instrument in accordance with one aspect of the present invention;

[0014] **Fig. 4** is a side elevational view of a writing instrument with an exemplary gripping element as in Fig. 1 positioned substantially at the midpoint of the writing instrument in accordance with one aspect of the present invention;

[0015] **Fig. 5** is a front elevational view of a pocket-type writing instrument with a smooth grip positioned substantially at the midpoint of the writing instrument in accordance with one aspect of the present invention;

[0016] **Fig. 6** is a front elevational view of a tank-type writing instrument with a smooth grip positioned substantially at the midpoint of the writing instrument in accordance with one aspect of the present invention;

[0017] **Fig. 7** is an elevational view of a gripping element mounted on a writing instrument, wherein the gripping element extends down the front nose-cone of the writing instrument toward the writing tip; and

[0018] **Fig. 8** is an elevational view of a writing instrument with a writing tip at each end and a gripping element at a central portion thereof.

DETAILED DESCRIPTION OF THE INVENTION

[0019] The present invention relates generally to a gripping element for use on an article. The gripping element may be applied to any article and may be formed, configured, and positioned to be well suited for use on a writing instrument, such as a marker, used in a wand-like fashion and gripped in a central region.

[0020] Referring to Figs. **1** and **2**, an exemplary embodiment of a gripping element **10** formed in accordance with the principles of the invention is illustrated. According to one aspect of the present invention, gripping element **10** may be provided on a writing instrument **12** at a position equidistant from first end **13** and second end **15** of writing instrument **12**, as shown in Figs. **3** and **4** as discussed in detail below. Such position is specifically selected to enhance use of the writing instrument in a wand-like manner, as also discussed in detail below. However, various novel aspects of a gripping element, in accordance with the principles of the present invention, may be applied to any type of gripping element for any type of article, as will now be described.

[0021] Gripping element **10** may be configured for mounting on an article specifically configured to receive gripping element **10**. For example, gripping element **10**

may be inserted over a gripping section of an article (*i.e.*, a section specifically configured for gripping). The gripping section may be specifically designed or configured to receive gripping element **10** such that gripping element **10** is specifically designed or configured for insertion over such article. For instance, gripping element **10** may fit within a recess in an article, such that the article has a uniform outer diameter even with the grip mounted thereon. However, gripping element **10** need not be specifically designed or configured for a particular article and may be mounted over an article not specifically configured or designed to receive a gripping element. If gripping element **10** is inserted over an article not specially designed for receiving any type of element thereover, gripping element **10** typically will have an outer diameter larger than the outer surface of the portion of the article not covered by gripping element **10**. Gripping element **10** may have a total outer diameter of at least about 1.0 inch (2.5 cm), such as for a grip for mounting on a writing instrument. The total outer diameter of gripping element **10** is typically less than about 3.0 inches (7.6 cm) so that gripping element **10** may still be grasped in the hand of a user. However, it will be.appreciated that the dimensions and configuration of the gripping element **10** of the invention may vary as desired.

[0022] It will be appreciated that the same gripping element may be fitted over either type of article. If desired, gripping element **10** may be formed to be removable from the article and placeable on alternate articles as desired. In addition or alternatively, an article may be prefabricated with gripping element **10.** As may be appreciated from the Figures, gripping element **10** has discrete ends from the ends of the writing instrument itself spaced and is not to be mistaken for a uniform covering over the entire length of the article.

[0023] Gripping element **10** may be mounted on an article in any desired manner. For instance, gripping element **10** may be axially inserted over an end portion of a hand-held article and advanced until positioned over a central region of the article. Alternatively, gripping element **10** may be inserted over an article in a direction transverse to the longitudinal axis of the article, such that gripping element **10** is positioned at the desired location upon mounting, without having to be advanced axially.

[0024] Gripping element **10** may be formed with a mounting structure, such as a receiving channel **18**, by which gripping element **10** may be optionally mounted on an article. It is noted that reference herein is made to a "receiving channel" for the sake of convenience, and not with any intent to limit the mounting structure to only a "receiving channel." Receiving channel **18** is configured to receive a portion of an article such as a writing instrument, securely therein. Receiving channel **18** preferably is dimensioned and

configured to correspond to the outer dimension of the portion of the article on which grip element **10** is to be mounted so that this portion is securely maintained therein. For example, the receiving channel **18** is typically more than about 0.2 inch (0.5 cm) to fit over a finger-manipulated article and typically is less than about 2.0 inches (5.0 cm) to fit even a typical hand-held article. In the present invention, a finger-held or finger-manipulated article (referenced herein as only "finger-held" for the sake of simplicity and not for limiting purposes) is an article configured for grasping and/or manipulation by a user's fingers during its ordinary use and typically receives pressure or force applied by a user's fingers or fingertips. Exemplary finger-held or finger-manipulated articles include, but are not limited to, writing implements, shavers, razors, toothbrushes, eating utensils, precision instruments, scissors, and the like. According to the present invention, finger-held articles are to be distinguished from "hand-held" articles which are intended to be held by a user's hand (in contrast to only by the fingers) under a normal use circumstance. Examples of hand-held articles can include, but are not limited to, sports rackets, sports equipment handles (*e.g.*, bicycle or motorcycle handles), steering wheels, tools (*e.g.*, hammers), cooking utensils, and the like. However, mounting structure **15** may be configured in any other manner to secure the article therein. For example, an interior of receiving channel **18** may include flexible protrusions, which resiliently conform to the exterior of the portion of the article to be received within receiving channel **18**. If desired, the article and receiving channel **18** may be matingly contoured, such as by the provision of grooves on one and ribs on the other which mate or engage with one another.

[0025] Gripping element **10** will typically have an outer surface **20**, which is a non-smooth, unsmooth, or rough ("textured" hereafter for the sake of convenience and without intent to limit, other than to surfaces that are not smooth) surface that repels dirt and grime. In addition, gripping element **10** preferably is fabricated from a material that imparts a non-slip or non-skid surface to a user, and that does not easily attract dirt and grime. Gripping element **10** may be fabricated from an elastomeric material such as, but not limited to, a thermoplastic elastomer. The material of gripping element **10** preferably has a Shore A hardness of at least about 50 durometers so that dust, grime, or other particles will not remain adhered to the surface of the grip. Lower hardnesses may be appropriate as well, so long as such hardness does not interfere with molding or manufacturing thereof. The Shore A hardness preferably is at most about 70 durometers to provide a comfortable, grip. Higher hardnesses may be may be appropriate as well, though a moderately compressible,

elastomeric feel (in contrast with a mere rigid plastic feel) is desirable. A Shore A durometer of 60 has been found to be suitable.

[0026] Gripping element **10** may have a relatively uniform diameter with a smooth or textured surface. Moreover, the surface of gripping element **10** may be dimpled, ribbed, or otherwise provided with a grip-enhancing pattern. For instance, as illustrated in Fig. 6, gripping element **10** has a relatively smooth outer surface. A plurality of elevated sections (*e.g.*, **22** and **24**) may be raised above the outer surface to vary the grip texture and thus to enhance gripping further. For example, elevated sections **22** and **24** may impart a non-slip or non-skid grip to a user (*e.g.*, to prevent slippage such as from sweating in an industrial environment), allow better control of an article (*e.g.*, for writing quickly in an industrial setting on, for example, pipes or boxes), and/or allow more degrees of freedom (*e.g.*, marking overhead). Elevated sections **22** and **24**, which are raised above the outer surface, may be configured to be intercalated or meshed together. For example, sections **22**, **24** may be in the form of crosses **22** or hexagons or sliced hexagons **24**. Elevated sections **22** and **24** may extend at least about 0.1 mm (to be perceptible) and typically are not more than 3.0 mm above outer surface **20** of grip **10**. An elevation of about 0.5 mm has been found to be acceptable. While gripping comfort is enhanced by elevated sections **22** and **24**, slippage is inhibited by gaps **25** between elevated sections **22** and **24**. Elevated sections **22** and **24** preferably are not so elevated above outer surface **20** of gripping element **10** that gaps **25** therebetween create discomfort.

[0027] According to one embodiment of the invention, the outer surfaces **32** and **34** of elevated sections **22** and **24** may be formed to be relatively comfortable to grip and may be smooth or textured, as desired. Outer surface **20** of gripping element **10** (from which elevated sections **22** and **24** rise) may be textured to inhibit build-up of dirt and/or grime, as described above. The spacing of elevated sections **22** and **24** may be selected to be far apart and thus the width of gaps **25** may be wide enough so that small particles cannot become lodged in gaps **25** and any particle large enough to become lodged in gaps **25** is readily dislodged. Such dimensions are readily determined by those of ordinary skill in the art, and may be approximately 1-2 mm for standard usage and environments. As will be appreciated, the formation of outer surface **20** as textured, rather than smooth, further facilitates enhanced cleanliness and longer wear of gripping element **10**.

[0028] The present invention further encompasses a gripping element **10** designed for a writing instrument **12** that is gripped in a central region and intended for use in a wand-like fashion, and a writing instrument **12** with a centrally positioned gripping element

10. Typical writing instruments used as such are markers or other writing instruments with nibs. As understood by those in the art, "nibs" are material-based writing points (*e.g.*, not metal), such as porous material (*e.g.*, plastics), or felt or synthetic tips points, in contrast with ball points or roller balls. Such nibs are typically relatively wider than other writing tips, and are not used for fine, detailed writing, and may be chiseled to permit marking of wide lines. It will be appreciated that the writing instrument with a centrally positioned gripping element need not have a gripping element as described above. Instead, any suitable gripping element imparting the desired grip enhancing characteristics (for example, but without limitation, improved comfort or control during gripping) to writing instrument may be used. For instance, an elastomeric gripping element **10** with a smooth or textured outer surface and without elevated sections may be provided over central region **40** of writing instrument **12** as illustrated in Figs. **5** and **6**. Writing instrument **12** has an elongated writing instrument body with a first end **13**, and a second end **15**. As may be appreciated from Figs. **6** and **7**, the outer diameter of the barrel of writing instrument **12** may be applied to a pocket type writing instrument as in Fig. **5** (with an average diameter of approximately 16.2 mm) or a tank type writing instrument as in Fig. **6** (with a wider diameter of approximately 21.3 mm). Gripping element **10** may be positioned substantially over central region **40** of writing instrument **12**. As used herein, the term "central region" refers to a position that is approximately equidistant from each end of an article. It is noted that reference herein is made to a "central region" for the sake of convenience, and not with any intent to limit a writing instrument to having a gripping element exclusively located in a central region **40** (*i.e.*, in certain embodiments the gripping element may extend from a central region toward a writing tip). However, it will be appreciated that gripping element **10** has distinct ends and an overall length shorter than the writing instrument on which it is positioned. Accordingly, the overall longitudinal extent of gripping element **10** may vary according to the length of the writing instrument body on which gripping element **10** is to be provided, but is limited with respect to the length of the writing instrument body. The present invention is not intended to cover writing instruments completely covered by gripping material. Thus, a gripping element **10** may be arranged along a midpoint **45** equidistant from first end **13** and second end **15**. Gripping element **10** is typically positioned and extends at least over midpoint **45** and between midpoint **45** and second end **15**.

[0029] When gripping element **10** is positioned at a central position on a writing instrument that is used in a wand-like fashion, gripping element **10** enhances gripping

during use of writing instrument **12** in such manner. Particularly, a writing instrument **12** of the invention can be grasped in central region **40** and used on a vertical or inverse horizontal (*i.e.*, upside down) surface, wherein such uses typically entail gripping of writing instrument **12** further from the writing end than during conventional writing on a horizontal plane and thus at a substantially central region **40**.

[0030] Gripping element **10** has a substantially cylindrical portion **50** extending over central region **40**. In addition, gripping element **10** may include a band **52** of a wider diameter than cylindrical portion **50** (adjacent first end **13** when positioned on a writing instrument **12**). Preferably, the outer diameter of band **52** abuts and has the same outer diameter as the outer diameter of a cap **54** that may cover first end **42** so that a substantially uniform diameter is achieved when cap **54** covers first end **42**.

[0031] In one embodiment of the invention, shown in Fig. **7**, gripping element **10** includes a front conical gripping portion **60** covering front nose cone **62** of writing instrument **12**. Thus, a portion of gripping element **10** may extend over front nose cone **62** toward the writing tip or nib **73** to enhance gripping even when writing instrument **12** is used for fine writing. Front conical gripping portion **60** of gripping element **10** may be formed as a single piece with substantially cylindrical portion **50** of gripping element **10**. However, if desired, front conical gripping portion **60** may be of the same or similar material as gripping element **10**, but comprised of a separately formed piece positioned preferably adjacent gripping element **10**. If a front conical gripping portion **60** is provided, band **52** may be formed as a part of front conical gripping portion **60**, separate from substantially cylindrical portion **50** (*see, e.g.*, Fig. **6**). Front nose cone **55** may optionally be covered by cap **54** wherein the writing end of writing instrument **12**, as well as front conical gripping portion **40** are configured and dimensioned to receive cap **54**.

[0032] In the embodiment of Fig. **8**, writing instrument **12** has a writing tip at both ends. Preferably, writing instrument **12** will have a writing tip **73** at first end **13** and a writing tip **75** and second end **15**. Such a writing instrument will have a gripping element **10** configured to be positioned equidistant from ends **40** and **42**. It will be appreciated that the central portion of gripping element **10** allows for enhanced gripping during use of either writing tip without requiring the covering of the entire writing instrument body. If two writing types are provided, one may be configured for fine writing (*e.g.*, a ballpoint or roller ball or fine felt or synthetic nib) and the other writing tip may be configured for writing while holding the writing instrument like a wand, as described above.

[0033] Writing instrument **12** is well suited for use in an industrial setting because the gripping element **10** is fabricated to avoid slippage, to be wear resistant, and to repel dirt or grime. Thus, gripping is enhanced during use. Moreover, when writing instrument **12** is not in use and is laid on a surface, raised patterns **22, 24** will prevent writing instrument **12** from sliding or rolling away from a user.

[0034] It will be appreciated that the various features described herein may be used singly or in any combination thereof. Therefore, the present invention is not limited to only the embodiments specifically described herein. While the foregoing description and drawings represent a preferred embodiment of the present invention, it will be understood that various additions, modifications and substitutions may be made therein without departing from the spirit and scope of the present invention as defined in the accompanying claims. In particular, it will be clear to those skilled in the art that the present invention may be embodied in other specific forms, structures, arrangements, proportions, and with other elements, materials, and components, without departing from the spirit or essential characteristics thereof. One skilled in the art will appreciate that the invention may be used with many modifications of structure, arrangement, proportions, materials, and components and otherwise, used in the practice of the invention, which are particularly adapted to specific environments and operative requirements without departing from the principles of the present invention. The presently disclosed embodiment is therefore to be considered in all respects as illustrative and not restrictive, the scope of the invention being indicated by the appended claims, and not limited to the foregoing description.